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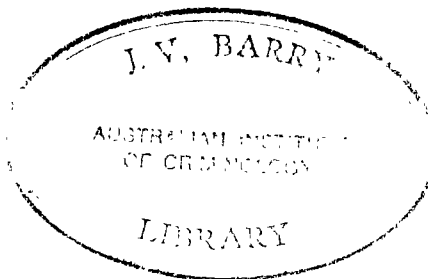
**Effects of props and caregiver on reliability of report  
by young witnesses**

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**Props and carer presence.**

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### Summary

Two studies examined suggestions that very young witnesses could be encouraged to produce more, and more accurate report with the aid of props (i.e. miniature settings, objects, figures) as retrieval cues. To increase reliability of report the presence of a familiar adult during interviews has also been recommended as likely to facilitate stress reduction. Both props and carer presence were studied for children (3, 4, 5 years) in interview after a real-life event. Props did not consistently increase the amount or accuracy of report when used with free recall or questions. The presence of a carer was associated with more report in some conditions but not more accuracy. Age effects were significant and only for the oldest children were there trends to be assisted by either props or carer presence. It is suggested that research is still required to establish optimal conditions in which props and carers may enhance reliability of report from very young witnesses.

Younger children are likely to present as poorer witnesses than older children or adults but more in terms of quantity rather than quality (Davies, 1989). It is known that younger children, particularly those below 5 years, may have difficulties in reporting memory of witnessed events (Goodman and Reed, 1986; Ornstein, Gordon and Larus, 1992; Saywitz, 1987). They may remember more than they report (Fivush and Hammond, 1991) but do not understand the task, are less able to use cues to retrieve information from memory (Ackerman, 1985) or lack the appropriate vocabulary (Mandler, 1991). For these reasons particular age-appropriate retrieval cues which rely less on verbal components may be useful in increasing report while preserving accuracy. Among proposed procedures are the actual physical return to the environment in which the event took place (Wilkinson, 1988), cognitive reconstruction of the witnessed circumstances (Geiselman and Padilla, 1988), specific cues from the original context (Price and Goodman, 1990) or the use of general props (i.e. miniature figures, objects and

settings) suggested by Cole and Loftus (1987). While each of these procedures has some advantages, they all suffer from particular limitations in application.

Wilkinson's (1988) study is often cited as a simple procedure with wide application and positive outcomes. When she took her subjects (3 and 4 year olds) back to a park where they had participated in a walk she found improvement in the children's free recall of details compared with more standard questioning. Although the study was quite simple and few subjects were involved, it is often cited and it does offer some guidance. In some witness contexts this procedure could be useful by providing physical stimuli to prompt recall, but in other contexts actual return "to the scene of the crime" may be inappropriate, stressful or actually impossible.

Memory reconstruction through the cognitive interview approach of Geiselman and Padilla (1988) has also been demonstrated to be effective in some situations. In their first study with children, 7 to 12 year olds, they applied cognitive interview techniques minimally modified from use with adults. These techniques encourage subjects to reconstruct in memory details of the circumstances surrounding the event, to evoke feelings experienced at that time, to reverse the order of the event, and to respond to other prompts. Although fewer mistakes were made by these children than adults, there were many more confabulations. The authors acknowledge that the children may not have understood the cognitive techniques as well as adults do. In particular it may be difficult for children to take the perspectives of others as this ability has been shown to develop only gradually with age (Flavell, 1985). Some authors suggest the need for caution in using cognitive interviews with children (Memon and Koehnken, 1992). Others (Dietze and Thomson, 1993), are more optimistic, at least for selected mnemonics of the cognitive interview. However none of these studies involved children younger than six years who may experience even more difficulties with this approach.

A more promising procedure for younger witnesses has been demonstrated by Price and Goodman (1990). For reenactment of a recurring event (a visit to a wizard) they

provided props for 2.5, 4 and 5 year olds. It was suggested that these props would allow the young children to reinstate cognitively the context of the event as well as provide age-appropriate nonverbal means of communication (Fivush, Kuebli and Chubb, 1992). When props were used as stimuli, actions were reenacted more than in uncued free recall. In particular, when the two youngest age-groups used props in context of the original event they remembered more than in the other recall or context-deviation conditions. Using props, the younger children improved their memory performance to the next age level.

This study has made valuable contributions in illustrating the need for "multiple elicitation contexts" (Price and Goodman, 1990, p.676) for a full understanding of children's representational abilities, and in demonstrating the differential effects of task demands on young children's report. Although it supported the efficacy for some types of props if used in the context of an event, some concerns about their generalisability still remain. The props used in their study were exact replicas of the original environment and objects, e.g. a scale model of the wizard's room, the magic chamber, a jack-in-the-box. All models had exact details as in the originals, e.g. animals on the robes, pictures on the doors, which provided very specific cues. It has since been clearly established by DeLoache (1991) and DeLoache, Kolstad and Anderson (1991) that at least for children between 2.5 and 3.5 years of age, physical similarity between the model and original object, together with representational insight into their correspondence, affect accessibility of memory for an event. The concern remains, however, that in many real-life situations for which children are asked to be witnesses, such detailed material from the context would not be available.

Further, the stimulus event in Price and Goodman's (1990) study was repeated exactly according to a script three times within five days with rehearsals corrected if necessary. These conditions are unlikely to apply to many events witnessed by children. Finally the event itself, involving a highly memorable wizard, may have, as the authors concede,

evoked some "wizard scripts" from the children's previous experiences. Such script material can all too easily be incorporated into the memory trace of a particular event. In any case many events for which a child may be required to give testimony would not have these characteristics.

Another similar elicitation technique involves the use of more general props than those used by Price and Goodman. These have the potential for wider applicability to many situations (Cole and Loftus, 1987; Davies, 1991; Saywitz, 1987). It has been argued that they should allow the child witness to reenact remembered features of witnessed events without undue influence from leading details, and as the procedures discussed above, they should particularly assist younger children whose vocabulary is more limited or who may be more timid in interview situations. When this type of retrieval cue was first subjected to experimental scrutiny, however, it was suggested that some caution should be exercised in their use for preschool witnesses (O'Callaghan and D'Arcy, 1989).

In that study props were provided to 4 year olds after a videotaped stimulus event. The 3-minute videotape ("Who Let the Dog Out?") portrayed an everyday event such as might be experienced in their own home. All children (N = 36) were interviewed individually in their own child care centre half an hour after the witnessed event. Evidence suggested that the effect of props differed according to whether the eliciting condition was one of free recall or questions. Although the props increased quantity they did not increase accuracy from questions, and they led to a decrease of accuracy from free recall. Accuracy in recall of actions was most vulnerable to the use of props when compared with recall of descriptions or dialogue.

It was argued that perhaps the videotaped stimulus event may have been at least partly responsible for the decrease in accuracy with props. Although of an everyday event, the video medium may have been perceived by the children as from the realms of fantasy to which they should add their own creative contribution. A more naturalistic stimulus event was indicated so in the scenario chosen for further study with props, a real-life visit

by a stranger to the child's home was used as more ecologically valid. Davies (1989) has confirmed that at least for 7 and 8 year olds, witness report is more accurate when the child interacts in a personal confrontation. Even after a personally experienced event, however, 3 year olds have been found by interviewers to require more probes than 6 year olds (Ornstein et al., 1992). Nevertheless it was anticipated for further studies that if the witnessed event engaged the child and stranger in activities together, the detrimental effects of props on accuracy might be minimised. This interactional scenario should also have more relevance for child witness report.

In the study by O'Callaghan and D'Arcy (1989) the further observation was made and confirmed by data that some children at least appeared to be responding to some demand characteristics of the task which encouraged them to embellish report when provided with props. When the data were further analysed for error patterns, it was found that it was errors of commission rather than omission which increased with the provision of props. The children may have perceived pressures to provide information about which they were unsure and "the younger the children are, the more sensitive they may be to such demands" (Baxter, 1990, p. 404). Melton and Thompson (1987) as well as Davies (1989) have also warned about interference in the memory process from "task demands" and it is possible that was occurring here.

Another demand characteristic in the study by O'Callaghan and D'Arcy may have contributed to the poor outcome for props. The children had been interviewed by an unfamiliar adult in their child care setting. It was possible that some inaccuracy had emerged with props because the children were alone with a strange adult. Perhaps there was some associated stress in that unfamiliar context when asked to engage in the props task. It was noted by Ornstein et al. (1992) that in a similar interview context, 3 year olds tended "to exhibit somewhat more stress than the 6 year olds" (p.57). Younger children may be particularly vulnerable to context (Ceci, Bronfenbrenner and Baker, 1988). If the environment is not comfortable and familiar, their memory is likely to be

impaired. The presence of a familiar caring "significant other" may counter these negative effects.

Goodman and Reed (1986) advocated the presence of a support person to reduce stress in structured interview with young children. This supportive presence was also noted by Moston and Engleberg (1992) as likely to increase reliability of report. From their review of studies of social support effects on children being interviewed, these authors generally endorsed the positive role for adult or peer support. They acknowledged, however, that some children may experience more inhibition in that context. In the following two studies the role of carer presence was examined along with young children's use of props after a witnessed event.

### Study 1:

The first experiment investigated the effects of props and carer when young children were interviewed after a real-life event. It used a 2 (cue condition: props, no props) x 2 (support condition: carer, no carer) x 2 (eliciting condition: free recall or questions) design. All were between-subjects variables. The children (N = 32) were 4 and 5 year olds recruited from child care centres with informed parental consent. Their mean CA was 5.0 years (SD = 4 months). Assignment was made randomly to experimental conditions after matching for CA and short-term-memory on a memory-for-objects task. This task required recall after a 5- minute delay of 10 objects presented on a tray. Results allowed some control that children with unusual STM or attentional patterns were not placed in any one condition. The memory task itself remained sufficiently different from the experimental task to avoid contamination. Gender was balanced across groups.

Each child was visited one evening at home for approximately 10 minutes by an unfamiliar adult who followed a prepared script for standardisation. After appropriate introductions, family members were encouraged to continue with normal activities. In a playful interaction the child and visitor together made an octopus with playdough. The child was encouraged to participate and also to draw the octopus with materials provided.

This scenario was devised to avoid the problem that children might be using a familiar "script" from events already experienced. The visitor completed a checklist to record information about the presence and movements of others during the visit. This allowed the interviewer to check later on the accuracy of the child's report. The same visitor was used for all children.

On the day following the home visit, each child was interviewed at the child care centre by a second research assistant, the same for all children. As far as possible the interview procedures were standard according to the assigned condition.

In the cue conditions using props, the children were presented with the miniature setting and furniture which they were encouraged to set up as much like their own home as possible. The objects were made of plain varnished wood, except for kitchen and bathroom objects which were painted white. More specific decor details were omitted in case they provided undue distraction or had more significance for some children than others. Sizes were to scale for all the furniture objects, e.g. the armchair was 6 cm. wide x 5 cm. deep by 8 cm. high and the bed was 16 cm. long by 7.5 cm. wide. There was furniture for living room, 2 bedrooms, kitchen and bathroom. The total floor space was 60 cm. x 60 cm. with adaptable room boundaries. The floor space also acted as a container in which to transport the props. The children were asked to tell what they remembered of the visit by using these and the figures which they chose from an array to represent those persons present in the home at the time of the visit. The array of 10 figures ranged from 6 cm. to 10 cm. tall with appropriate proportions to represent age differences and appropriate clothes to identify gender.

In the carer-present condition, the carer was asked to sit near the child but remain as passive observer, giving only non-directive prompts if necessary. In each case the carer was the member of the centre's staff most responsible for the child.

Under free recall conditions, the child was encouraged to report as much as possible concerning the home visit. Only neutral prompts such as: "Can you tell me anything

else?" were used to elicit further information. Under questioning conditions the child was asked 21 objective, open questions, not intended to mislead. They included equal numbers of item types: action (e.g. "What did the visitor make with the playdough?"), dialogue (e.g. "What did the visitor ask you about kinder?") and descriptions (e.g. "What colour hair did the visitor have?")

### Scoring:

For each condition, quantity of report was calculated as: No. Correct Responses + No. Incorrect Responses. Incorrect responses did not include "Don't knows" as it would be difficult to maintain comparability between eliciting conditions of free recall and questions. Under question conditions a total of 21 points was possible with an extra point given for each additional piece of correct information not specifically asked for. The children's responses as recorded verbatim in writing by the interviewer were independently scored by 2 raters, one of whom was the home visitor. Overall reliability between raters was acceptable at 80.0%, ranging from 73.6% to 84.5% for separate conditions. Mean scores for the two raters were used for analysis.

Accuracy was measured simply by the No. Correct Responses. As the true picture of accuracy is dependent to some extent on the amount of report, further analyses were made using the percentage formula:  $\text{No. Correct Responses} / (\text{No. Correct Responses} + \text{No. of Incorrect Responses}) \times 100$ . However there were no major differences in the pattern of results using either formula, so the former accuracy score rather than percentage accuracy was adopted for reporting here.

### Results:

Separate analyses for quantity and accuracy of report were carried out for free recall and questions, and for each item type (action, description and dialogue) using ANOVAs. Tukey HSD tests were used for post-hoc comparisons with .05 as the acceptable level.

### Quantity of Report

There was no main effect from the use of props, i.e. the amount of report freely recalled was not significantly different whether props were used or not used. There was only a nonsignificant trend for props to increase the amount in free recall. However this pattern was similar to that found by O'Callaghan and D'Arcy (1989) where free recall produced less quantity than questions but increased with the use of props. There were no significant main effects or interactions from the use of props with questions.

There were significant main effects for eliciting condition on the amount reported for separate action items  $F(1/24) = 28.468$ ,  $p = .0001$  with free recall ( $M = 3.94$ ) producing less than questions ( $M = 7.56$ ), and for separate dialogue items,  $F(1/24) = 127.843$ ,  $p = .0001$ , with free recall producing very little ( $M = .562$ ) compared with questions ( $M = 7.34$ ). There were no significant differences for description items. In none of the item types was there a significant interaction between eliciting condition and use of props.

There was a just significant effect from carer presence on the amount freely recalled,  $F(1/15) = 4.42$ ,  $p = .0541$ . With carer present the children reported less ( $M = 8.00$ ) than when carer was absent ( $M = 13.69$ ). There was no significant effect from carer presence on questions. When carer presence was examined for effects on the quantity of separate item types there were no significant differences or interactions in either free recall or questions.

### Accuracy of report

There were no significant main effects from props on the accuracy of report from either free recall or questions. There was a nonsignificant trend for accuracy from free recall to be lower with the use of props ( $M = 8.4$ ) than with no props ( $M = 11.1$ ).

There were main effects of carer presence on accuracy of freely recalled report,  $F(1/15) = 4.45$ ,  $p = .0535$ . When the carer was present ( $M = 7.0$ ) the children were less accurate than with carer not present ( $M = 12.5$ ), but their response to questions was not

significantly influenced by carer presence. Interaction between props and carer was significant for free recall,  $F(3/15) = 4.85$ ,  $p = .0195$ , but not for questions. When props and carer were used together the children were the least accurate of all. When separate item types were analysed, it was found that neither props nor carer presence significantly influenced accuracy.

### Discussion

This study did not find exactly the same pattern of results for the use of props as in the study by O'Callaghan and D'Arcy (1989). However it was consistent with it in showing that props were no more effective in improving accuracy of report when the witnessed event was interactive and real-life rather than videotaped. Unless props are of a highly detailed nature as used by Price and Goodman (1990), they are unlikely to be of benefit in enhancing witness report from very young children. It seems that due to this lack of exact physical similarity between the props and features in the original event, the children did not demonstrate the representational insight shown by DeLoache (1991) to be necessary if props are to act as effective retrieval cues.

The presence of the carer was associated here with less, and less accurate, freely recalled report. Firstly, the inhibition effect noted by Moston and Engleberg (1992) may have been at work here. Secondly, although intended to provide appropriate social support to these young children, the carer presence may have also provided unintended task demands. The free recall condition, being less structured than questions, is likely to be more influenced by such extraneous demands. To please their carers the children may have perceived the task as requiring them to report only that which they could be sure of, as in "getting it right". It is also likely that some children at least may have been affected by the artificiality of having their familiar carer present but not involved with them in the activity as they normally would be. In any case, the pattern of results here did not provide unequivocal support for the inclusion of a familiar adult as beneficial to recall by young children.

It was considered desirable to extend the focus on 4 and 5 year olds in this small study to include still younger children. It was thought that the efficacy of props and carer presence might be more evident for 3 year olds as this age group is known to be even less proficient with verbalised responses, and to be more susceptible to perceived stress in interview situations. A larger study was therefore carried out on age comparisons. A combined interview format was also used following the consistent advice of authors (Cole and Loftus, 1987; Davies, 1989; Yuille, 1988) that free recall should be used with, but precede questions.

### Study 2:

The design in this larger study was a 3 (age: 3, 4, 5 years) x 2 (cue condition: props, no props) x 2 (support condition: carer, no carer) one. In this study (N = 96) the eliciting condition of free recall or questions was a within-subjects variable. Props were used only with questions to minimise the inaccuracy effects with free recall found by O'Callaghan and D'Arcy (1989) and by the first study here.

The same stimulus scenario was used, i.e. the home visit with the playdough activity followed by an interview next day at the child care centre. One research assistant acted as visitor for all children while another interviewed all. Subjects were matched for STM on the same memory-for-objects task and allocated randomly to one of the conditions. There were equal numbers (n = 32) in each age group: 3 years (M = 3.6, SD = 4.2), 4 years (M = 4.5, SD = 4.0) and 5 years (M = 5.5, SD = 4.6). Within each age group and condition there were equal numbers of boys and girls. As expected, significant STM differences existed between age groups,  $F(2/84) = 9.423$ ,  $p < .001$ , with 3 year olds' STM (M = 3.66) less than 4 (M = 5.03) or 5 (M = 5.72) year olds,  $p < .05$ , but there were no significant STM or CA differences between conditions for any of the cued or support groups. Scoring procedures were the same as in the previous study. ANOVAs were used to analyse quantity and accuracy results separately for total report, for each eliciting

condition of free recall and questions, and for each item type. Tukey HSD tests (with .05 as acceptable level) were again used for post-hoc analyses.

Reliability of ratings of children's responses by 2 independent raters were consistently high for all groups and conditions: total (89.1%); 3 year olds (89.9%), 4 year olds (88.3%), 5 year olds (89.1%); props (88.6%), no props (89.1%); carers (89.5%) no carers (88.4%); dialogue (86.3%), action (90.1%), and description (90.8%). Mean scores between raters <sup>were</sup> ~~was~~ used.

## Results

Separate results for quantity and accuracy are presented. For each, main effects from age, cued and support conditions on total report, free recall and questions are treated in turn, along with significant results for separate item types.

### **Quantity of report**

As expected, significant age effects were found for total quantity of report. There was in general an increase with age for the amount freely reported and in response to questions. For total quantity, the age differences were significant,  $F(2/90) = 6.42$ ,  $p < .01$ , with 3 year olds ( $M = 26.91$ ) and 4 year olds ( $M = 29.11$ ) both producing less than 5 year olds ( $M = 34.47$ ). For quantity of free recall alone, there was also a significant main effect for age,  $F(2/90) = 8.202$ ,  $p < .001$ , with 3 ( $M = 5.5$ ), and 4 ( $M = 5.73$ ) year olds producing less than 5 ( $M = 10.14$ ) year olds. Age differences were significant for quantity of freely recalled action,  $F(2/90) = 6.92$ ,  $p < .01$ , with 3 ( $M = 1.98$ ) and 4 ( $M = 1.88$ ) year olds both producing less than 5 ( $M = 3.44$ ) year olds. Age differences were also significant for freely recalled description,  $F(2/90) = 7.61$ ,  $p = .0009$ , with 3 ( $M = 3.52$ ) and 4 ( $M = 3.72$ ) also producing less than 5 ( $M = 6.39$ ) year olds. For questions, none of the age differences reached significance.

There were no significant main effects for cued or support interview conditions on freely recalled quantity of report, total or item type. As free recall preceded questions for all children, this result may be viewed as a further matching measure from which to compare the effects of props and carer on questions.

There were no main effects from the use of props, but a significant interaction between age and props,  $F(5/90) = 3.23$ ,  $p = .01$ . This is shown in Figure 1:

#### INSERT FIGURE 1

Props appear to have assisted 5 and 4 year olds to produce more report, but were not so helpful for 3 year olds.

There was a significant main effect for carer presence,  $F(1/94) = 6.49$ ,  $p < .01$ . With carer present the children reported more ( $M = 31.76$ ) than with carer absent ( $M = 28.41$ ). The interaction between age and the presence of carer was not significant but the trends are shown in Figure 1.

#### **Accuracy of Report**

There were significant age effects also for total accuracy of report,  $F(2/90) = 21.59$ ,  $p = .0001$ , with a linear relationship between age and total mean accuracy. Three year olds ( $M = 10.44$ ) were less accurate than 4 year olds ( $M = 14.81$ ) and 5 year olds ( $M = 18.28$ ). This pattern was also reflected in the results for separate item types. Age differences were significant for action items,  $F(2/90) = 6.86$ ,  $p < .01$ , with 3 ( $M = 4.08$ ) less accurate than 4 ( $M = 6.02$ ) and 5 year olds ( $M = 6.64$ ), and for description items,  $F(2/90) = 8.03$ ,  $p < .001$ , with 3 ( $M = 4.37$ ) less than 4 ( $M = 6.34$ ) and 5 year olds ( $M = 7.00$ ).

There were no main effects on accuracy from the use of props, and no significant interaction between age and props. Trends are represented in Figure 2:

INSERT FIGURE 2

There is a trend for props to have assisted the oldest but not the youngest age groups to produce more accurate report.

There were also no main effects on total accuracy from carer presence. Carer presence was significant only for accuracy of description items,  $F(2/90) = 5.79, < .05$ , with carer present ( $M = 9.18$ ) producing more accurate report than no carer present ( $M = 7.87$ ). Age x carer interaction was significant only for accuracy of action items,  $F(5/90) = 4.74, p = .01$ , as shown in Figure 3:

INSERT FIGURE 3

### Discussion

The consistent pattern in results for amount and accuracy of report to increase as a function of age suggests that the eliciting techniques adequately accessed the children's memory regardless of cued or support condition, as Price and Goodman (1990) also found. This pattern applied to total report as well as action and description item types.

Very little dialogue material was reported by the children so comparisons became rather meaningless, a result also found in the previous study.

Additional support has been provided for the findings by Goodman and Reed (1986) and Saywitz (1987) that children are unlikely to report freely much detail of witnessed events until about 5, but they should become increasingly more accurate within this range. This apparently applies also to interactive events as used in these studies and in that by Price and Goodman (1990). Although some major differences in results were found between their study and that reported here, both point to particular vulnerability for children below 4 years, particular maturity and independence from cue and support conditions for 5 year olds, and some evidence of a transitional phase between these groups.

In the original study by O'Callaghan and D'Arcy (1989) with 4 year old children only, the provision of props as concrete retrieval cues had been beneficial but only to the quantity of free recall and not to its quality, and questions did not seem to be affected, positively or negatively, by the use of props.

These extended studies, using a more ecologically valid stimulus event, have allowed more rigorous examination of conditions under which props may be useful as retrieval cues. Within this preschool group of 3 to 5 years, props have not been equally helpful in enhancing memory retrieval. Particularly for the youngest children props do not appear to be as useful as originally supposed. Even with questions they may not assist these younger preschoolers. Yet this is the group for whom it was hoped that props would be most beneficial in counteracting less mature verbal skills.

There were no positive effects from props on accuracy of report, not even of actions. Although this finding is consistent to some extent with the original study, it is not so consistent with the finding by Price and Goodman (1990) that "stimulus support of props led to higher action inclusion" (p.671).

Those authors were referring to correct inclusion of action items, which is more similar to accuracy scores in this study than to mere quantity. However, sources for differences

between studies may well lie in several other methodological characteristics of each. Price and Goodman used only 8 children in each of their age conditions, with half in each age condition allocated to different procedures. In the major study here, 32 children were used in each age condition with matched allocation to the 4 support conditions. In the Price and Goodman study, a within-subjects design was employed, compared to a between-subjects design here.

Further, Price and Goodman used a recurring event as the stimulus experience, whereas this study used a one-off event. Both types of events, it can be argued, may become the focus for later interviewing of young witnesses, and it may be that retrieval processes can be assisted differently for each.

Finally, the argument invoked above, that for successful use of models, symbolic development needs to have taken place, is particularly relevant to this major study. That argument endorsed the position taken by DeLoache et al. (1991) and expanded by DeLoache and Burns (1993) that insight into dual representation may be undeveloped so "focusing on the model as an attractive object", (the children) "did not appreciate its symbolic role" (p.96). The correspondence between the scale model and the original environment has most likely not been grasped by the younger children. This may be particularly so for nondetailed models or props, as used in these studies.

The supporting presence of a carer during interviews of young children also appears to need further evaluation. Although the carer presence was associated with more response overall, it did not lead consistently to more accuracy. There was some evidence that younger children here may have been susceptible to some perceived task demands. Five year old children seem to be able to interpret the task demands more independently and more appropriately. Three year old children, on the other hand, may be more sensitive to perceived pressure to produce some report, if unsure, even at the risk of inaccuracy, as Baxter (1990) warns.

Overall it seems that in the search for optimal conditions in which props and carer presence are most beneficial, they seem less damaging when used in conjunction with questions not free recall, for report other than of action, and for older preschoolers who are likely to make best use of them. The interesting point is that these are conditions where props are needed least.

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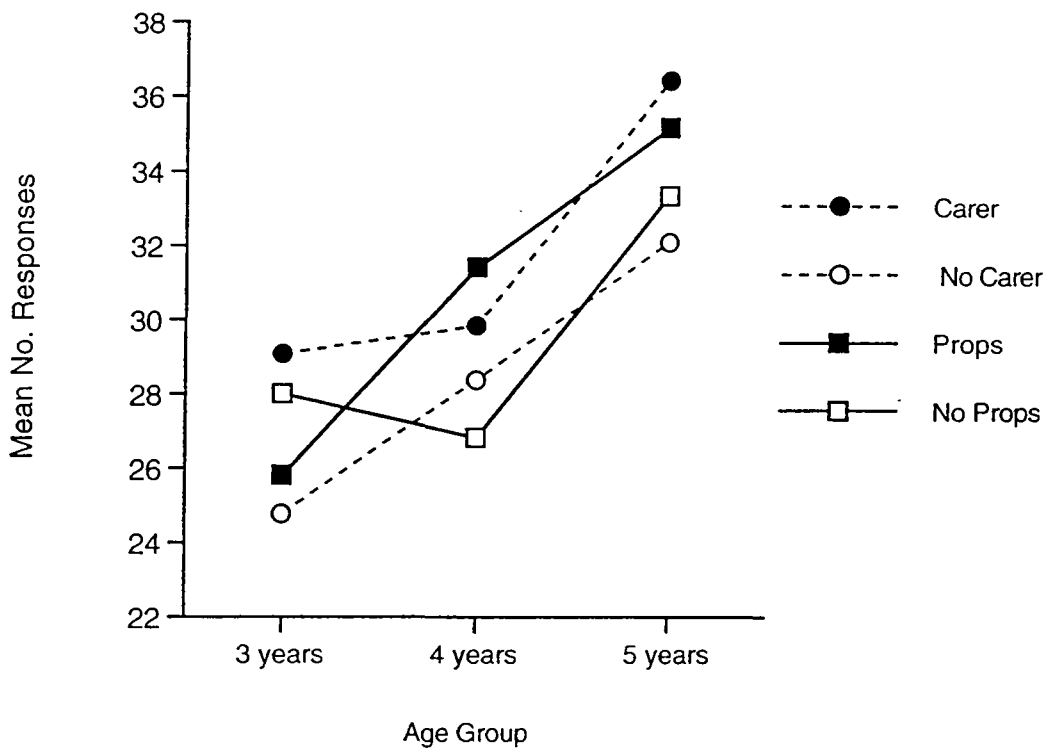


Figure 1: Mean quantity of responses from 3 groups (N=96) for cue conditions (Props, No Props) and support conditions (Carer, No Carer).

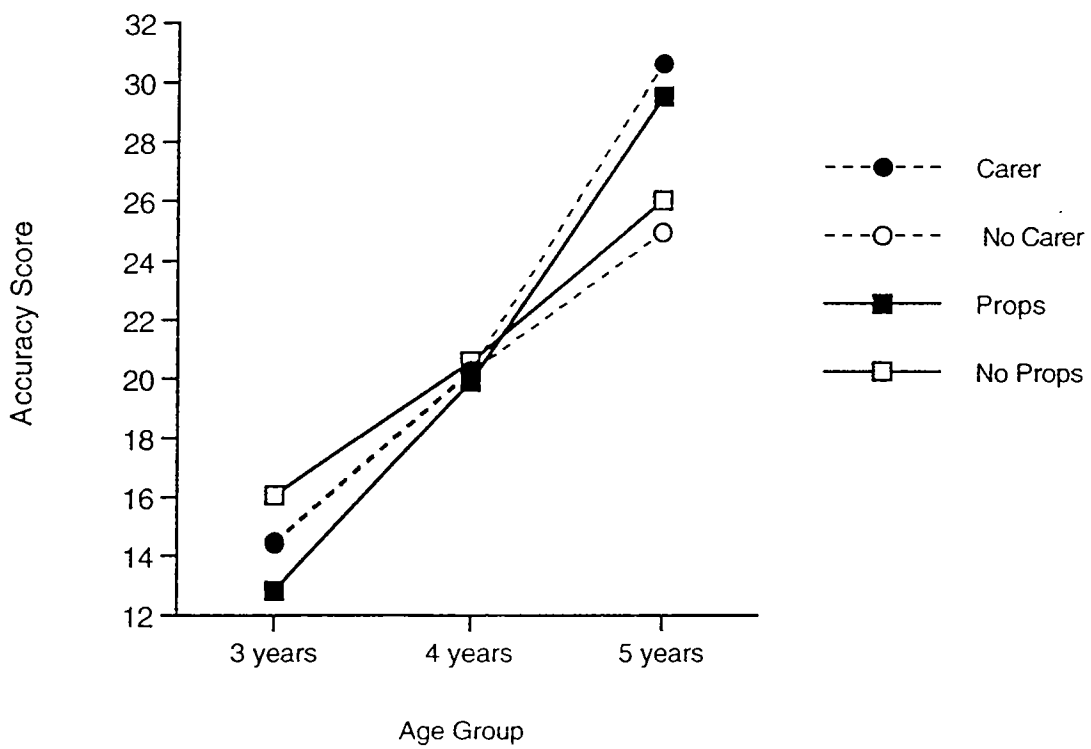


Figure 2: Mean accuracy of responses from 3 groups (N=96) for cue conditions (Props, No Props) and support conditions (Carer, No Carer).

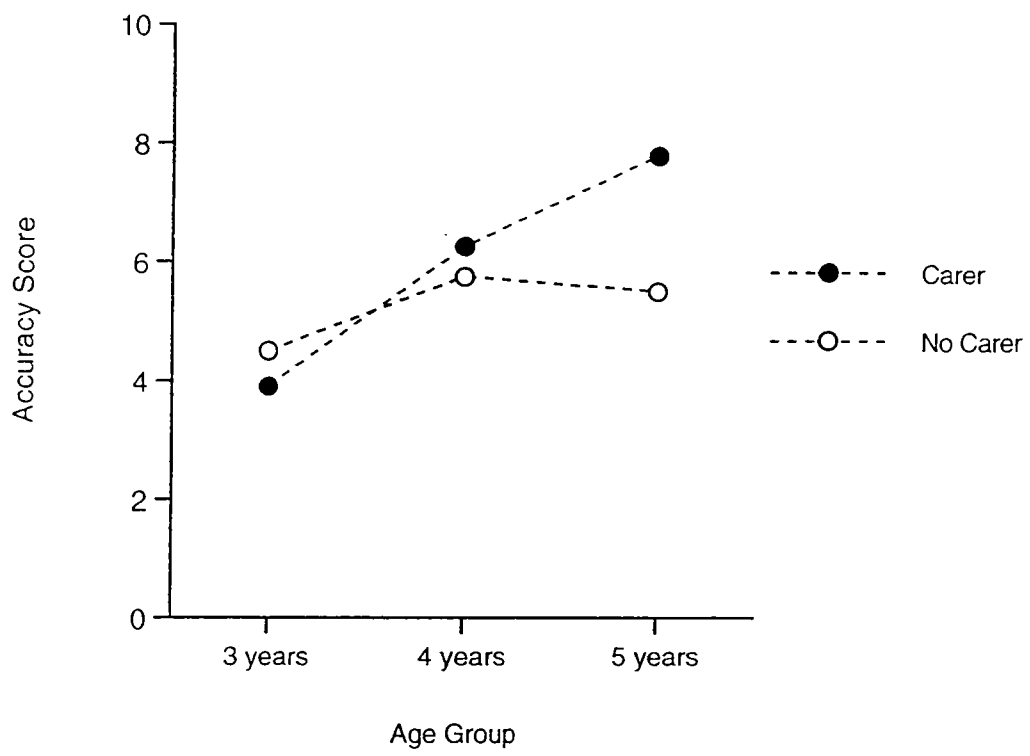


Figure 3: Mean accuracy of action items for 3 age groups, with and without carer present (N=96)

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## Criminology Research Council Final Report

**Research Project 6/90:** Age-appropriate interviewing conditions for pre-school witnesses.

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**Date:** 6 February 1995

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Four separate studies were proposed and approved (9.4.90) to evaluate the efficacy of props (i.e. miniature figures, objects and settings) to enhance the reliability of witness report from very young children (3, 4 and 5 year olds). These studies extended the work of O'Callaghan and D'Arcy (1989) which suggested that, contrary to increasing advice in psycholegal literature at that time, props may not achieve this desired effect. The studies examined some of the conditions for which the use of props have been proposed as likely to enhance accuracy of report.

The first study (N = 72) used the same videotaped stimulus event as the earlier work, but examined children's responses in a 2 (cue: props, no props) x 3 (age: 3, 4, 5 years) x 2 (retention interval: one hour, one week) design. It showed that props appeared to benefit quantity of report after one week's interval, but with the use of props there was a marked decrease in accuracy of report after either one hour or one week. Five year olds were significantly more accurate than the other groups in their free recall and responses to questions, but props did not assist any age group more particularly than others.

The second study (N = 32, 4 and 5 year olds) investigated the effects of props and carer when young children were interviewed after a real-life event. This event involved the visit to the child's home of a stranger who engaged the child in play activities. The child was interviewed next day at the child care centre. It used a 2 (cue condition: props, no props) x 2 (support condition: carer, no carer) x 2 (eliciting condition: free recall or questions) design. There was no main effect from the use of props on quantity or accuracy of report in either free recall or questions. It was argued that unless props are of a highly detailed nature as used by Price and Goodman (1990), they are unlikely to be of benefit in enhancing witness report from very young children, who appear to lack the representational insight shown by DeLoache (1991) to be necessary if props are to act as effective retrieval cues. The presence of a familiar adult during interviews had also been recommended as likely to enhance accuracy by facilitating stress reduction for the child witness. There were significant effects from carer presence on the amount and accuracy of freely recalled report. With carer present during the use of props, the children reported less, and less accurate information. It was argued this may be due to an inhibition effect noted also by Moston and Engleberg (1992) or to the perception of unintended task demands.

The third study (N = 96, 3, 4 and 5 year olds) used the same real-life home-visit scenario as for the second study. The eliciting conditions of free recall or questions were administered to each subject but props were used only with questions to minimise the inaccuracy effects with free recall found by O'Callaghan and D'Arcy (1989) and by the second study here. It was a 3 (age) x 2 (cue condition: props, no props) x 2 (support condition: carer, no carer) design.

Props did not consistently increase the amount or accuracy of report when used with questions. The presence of a carer was associated with more report in some conditions but not more accuracy. Age effects were significant for quantity and accuracy but only for the oldest children were there trends to be assisted by either props or carer presence. It is suggested that research is still required to establish optimal conditions in which props and carers may enhance reliability of report from very young children.

The fourth study (N = 30) probed further conditions under which props might be helpful, given earlier findings that they present particular problems for 3 year olds. In this last study more specific training in the use of props to supplement report was introduced and an examination made of their effects on 3 year olds with differing language skills. A new sensitive feature, that of physical touch between the visitor and child, was included in the real-life stimulus event. Here a stranger visited the child care centre and engaged in a play activity with the child who was interviewed next day at home. It was a 2 (cue: props, no props) x 2 (props training: yes, no) x 2 (language status: higher comprehension, lower comprehension) design. The small sample size limited the statistical analyses possible, but there appeared to be some interaction between effects of props training and language skill. It was suggested that young children with more advanced comprehension are less likely to use the props for mere play, and the demonstration of the representational function of props may reduce play in children whose comprehension is commensurate with their age.

These extended studies, using a more ecologically valid stimulus event than in the original study, have allowed more rigorous examination of conditions under which props may be useful as retrieval cues. Within this preschool group of 3 to 5 years, props have not been equally helpful in enhancing memory retrieval. Particularly for the youngest children props do not appear to be as useful as originally supposed. Yet this is the group for whom it was hoped that props would be most beneficial in compensating for less mature verbal skills.

The supporting presence of a carer during interviews of young children also appears to need further evaluation. Although the carer presence was associated with more response, this was not more accurate when props were used. There was some evidence that younger children may have been susceptible to some perceived task demands. Five year old children seem to be able to interpret the task demands more independently and more appropriately. Three year olds, on the other hand, may be more sensitive to perceived pressure to produce some report, if unsure, even at the risk of inaccuracy, as Baxter (1990) warns.

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